SPRING 2018 The Chemistry of Art CHEM 176

Instructor Kenton H. Whitmire, PhD
Professor of Chemistry
713-348-5650
whitmir@rice.edu
DBH 351

The Chemistry of Art is a class taught in collaboration between the Department of Chemistry at Rice University and the Museum of Fine Arts Houston (MFAH). As such, it provides a unique opportunity for students to understand and experience the role that chemistry and science in general plays in the creation, preservation, restoration and authentication of art objects.

The course grade will be based upon the following:

(1) Class attendance and participation (10%)
Attendance during the lecture classes held at Rice is strongly recommended since there is no standard text available for the class. Attendance at the sessions held at the MFAH or that the Houston Museum of Natural Sciences (HMNS) are required as these cannot be made up. The 2% of the course grade will be subtracted for each missed session that takes place at one of the museums.
(2) Three 1-hr semester exams (20% each)
(3) Out of class assignments (10%)
(4) Final exam (20%)

This course is being taught in conjunction with the conservation staff at the Museum of Fine Arts Houston (MFAH). Some sessions will be held during class time at the museum, which is about a 10-15 minute walk from campus, or you may bike. Because of construction at the MFAH, parking may be difficult to find and you may have to pay for it. Students will be responsible for getting to the museum on their own, but we anticipate that the classes will start about ten minutes later (ca. 11 AM rather than at 10:50 AM) on those dates in order to give people enough time to get there. The rooms where you will meet at the museum will be indicated via email shortly before our visits. Most often, we will be meeting in the lobby of the Beck Building located at the southeast corner of Fannin and Binz. Our intention is to cover fundamental chemical principles in class, which will be followed by illustration of these principles with selected works of art at the museum.

The museum conservators will present those lectures. The museum staff who will be participating in this project include

Prof. David Bomford	Chairman of Conservation
Prof. Zahira Bomford, Ph.D.	Senior Conservator of Paintings
Jane Gillies	Senior Conservator of Sculpture
Steve Pine	Senior Conservator of Decorative Arts
Toshi Koseki	Senior Conservator of Photographs
Tina Tan	Conservator of Works on Paper
Corina Rogge, Ph.D.	Conservation Research Scientist

All of us involved in this project are very excited about the course, and we hope that you are too!!!

Schedule

***Subject to Change**, Sessions are the MFAH are noted in red and the HMNS in blue*

Week 1

January 9	*Introduction to the Conservation of Art at the MFAH*
January 11	Creating and Perceiving Objects of Art The Elements: Periodic Table Metals and Alloys: Oxidation and Reduction

Week 2

January 16	Oxidation and Reduction Continued: The Formation of Compounds
January 18	Crystalline and Amorphous Solids: Glass, Ceramics and Stone

Week 3

January 23	Sculpture (*MFAH, tentative*)
January 25	Gems and Minerals

Week 4

January 30	Gems and Minerals (*HMNS*)
February 1	**Exam 1**

Week 5

February 6	The Interaction of Light with Matter Reflection, Refraction and Diffraction Techniques for Studying Art
February 8	***Spring Recess – no class***

Week 6

February 13	Pigments: Inorganic Pigments
February 15	Organic Compounds, Functional Groups

Week 7

February 20	Organic Pigments
February 22	Paintings (*MFAH*)

Week 8	
February 27	Polymer Chemistry (Ken)
March 1	Textiles and Fabrics, Dying (Ken)
Week 9	
March 6	Textiles and Fabrics, Dying (cont'd), Wood (Ken)
March 8	Wood (Ken)
March 10 – March 18	***Spring Break – No class***
Week 10	
March 20	Works of Wood (*MFAH, tentative*)
March 22	**Exam 2**
Week 12	
March 27	Paper and Inks (Ken)
March 29	Works on Paper: Prints and Drawings (*MFAH)*
Week 13	
April 3	Visit to the Galleries (*MFAH*)
April 5	Photography (Ken)
Week 14	
April 10	Photography (Ken)
April 12	Photography (*MFAH*)
Week 14	
April 17	Case Studies
April 19	**Exam 3**

Any student with a disability requiring accommodations in this course is encouraged to contact the instructors after class or during office hours on or before January 19, 2018. Additionally, students will need to contact Disability Support Services in the Ley Student Center.

Any student with a disability requiring accommodations in this course is encouraged to contact the instructors on or before January 19, 2018. Additionally, students will need to contact Disability Support Services in the Ley Student Center.